

1990, which in turn is a divisional application of U.S. Serial No. 07/168,352, filed March 15, 1988, now U.S. Patent No. 4,885,523 all of which are referred to herein in accordance with the provisions of 35 U.S.C. § 120.--

Please cancel Claim 1.

Please add new Claim 49:

1. 49. A portable system comprising a data terminal device, rechargeable battery means capable of providing power to said system, processor means capable of measuring the amount of current discharged from said battery means during portable operation, sensing means for sensing a variety of battery parameters, and non-portable charging means comprising

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- i. a receptacle adapted to receive said portable system and operative to supply a charging current, and,
 - ii. computer processing means for controlling the charging of said portable system based on the parameters sensed by said sensing means.

2. 50. The system of Claim 49, wherein said sensing means measures the amount of current discharged from said device.

3. 51. A hand-held data terminal collection device, comprising computer processing means for collecting data, removable rechargeable battery means connected to said computer processing

means and operable to provide operating current thereto, charging means associated with said battery means capable of recharging said battery means, said charging means comprising

- i. means for supplying a variable rate charging current to said battery means, and
- ii. means for monitoring battery parameters, and
- iii. means for adjusting said charging current based on said battery parameters,

wherein said battery means is adapted to receive charging current from either the portable utilization device or a separate current source.

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41.
52. A hand-held data collection device, comprising computer processing means for processing collected data, removable rechargeable battery means connected to said computer processing means and operable to provide operating current thereto, charging control means associated with said battery means capable of controlling recharging of said battery means, said charging control means comprising

- i. charging current-supplying means for supplying a variable rate charging current to said battery means,
- ii. means for monitoring a battery parameter, and
- iii. means for adjusting said charging current based on said battery parameter.

5.
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A hand-held data collection terminal device according to Claim 52 wherein said battery means is adapted to receive charging current from either the charging current supplying means or a separate current source.

6.
54.
A hand-held data collection terminal device, comprising computer processing means for processing collected data, removable rechargeable battery means connected to said computer processing means and operable to provide operating current thereto, charging control means associated with said battery means capable of controlling recharging of said battery means, said charging control means comprising

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- i. charging current supplying means for supplying a variable rate charging current to said battery means,
 - ii. means for monitoring a battery parameter, and
 - iii. means for adjusting said charging current based on said battery parameter.

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A hand-held data collection terminal device according to Claim 54 wherein said battery means has external contacts, and is adapted to receive charging current via said external contacts.

8.
56.
A hand-held data collection terminal device, comprising computer processing means for processing collected data, removable rechargeable battery means connected to said computer processing means and operable to provide operating current thereto, and

charging control means associated with said battery means for controlling the rate of charging of said battery means, said battery means comprising a battery pack having an external battery charge contact for supplying charging current to said charging control means during charging of said battery pack.

9.
97. A portable battery powered device, comprising,
a portable terminal device with processor means,

removable, rechargeable battery means operable to provide operating current to said device and connected thereto, charging control means associated with said battery means, said charging control means comprising

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- i. means for sensing battery parameters, and
 - ii. control means responsive to said sensing means for regulating said rate of charge after a period of portable operation.

10.
58. The device of Claim 97, with said parameter sensing means being operative to sense battery parameters during a charging operation.

11.
59. The device of Claim 58, wherein said control means comprises a microprocessor.

12.
60. The device of Claim ~~58~~¹⁰ or ~~59~~¹¹, wherein said parameter sensing means includes means for increasing the temperature of said battery means.

13.
61. The device of Claim ~~58~~¹⁰ or ~~59~~¹¹ wherein said parameter sensing means includes means for measuring the current into said battery means during charging.

14.
62. The device of Claim ~~59~~¹¹, wherein said control means receives information from said parameter sensing means from an analog to digital converter.


9² would.
15.
63. A hand-held data collection terminal device, comprising computer processing means for processing collected data, removable rechargeable battery means and operable to provide operating current thereto during portable operation, and charging current control means associated with said battery means for controlling the rate of recharging of said battery means, said battery means comprising a battery pack having an external battery charge contact for supplying charging current to said charging current control means during charging of said battery pack.

16.
64. A device according to Claim ~~63~~¹⁵ wherein said charging current control means comprises variable impedance means for regulating charging current flow and said variable impedance means is permanently associated with said battery pack.

Respectfully submitted,

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